According to the invention, the printing device may use a changeable developer station, whereby a quick change between a first developer station and a second developer station can be performed. While the first developer station may use optical readable toner, the second developer station may use a MICR toner. Such a printing station is described in WO-A-99/24877, the disclosure of which is hereby also incorporated by reference to the present disclosure.

The invention provides a comfortable printing system comprising in-line test equipment for character recognition both optical and magnetical as well as bar code scanning. With such a system document verification and document-tracking in a printing production line can be performed to enhance print quality assurance. The embodiment as described comprises a magnetic head mounted to a printer in the region of a stacker. Of course, such magnetic read carrier may be utilized at any other position within a printing line, in which precise stop position of the paper may be utilized. Alternative embodiments may provide a magnetic read head in a buffer whereby the recording web may be stopped for reading while printing is continued. During the test steps, newly printed material would be fed into the buffer thereby increasing the amount of carrier within the buffer.

In still further embodiments, a magnetic read head may be fixed to a carrier and the paper being advanced across the read head. The magnetic attributes of the printed density marking blocks at the edge of the continuous form would then be detected while the form would be in motion. According to such embodiments, a magnetic read head assembly may be fixed in position in the stacker area of a printer or in a turn-bar mechanism of a printer.

In the further embodiment of FIG. **7**, the printer applying the bar codes, visual indicia, and/or magnetic ink characters similar to FIG. **1** is shown at **72**. The paper web **71** is fed through this printer according to a paper feed control unit **73**. Thereafter, in a separate stand-alone test box **74**, a bar code scanner with associated bar code system decoder (BSC) is provided at **76**; a digital CCD camera together with an associated vision system controller (VIS) is provided at **77**; and an MICR reader together with an associated MICR system control (MICR) are provided at **78**. These units connect to a verification control unit **75** linked to the paper feed control unit **73**.

Thus, the stand-alone box of FIG. **7** contains all equipment needed for inspection (MICR, bar code, and visual inspection).

As shown in another embodiment in FIG. **8**, the inspection equipment may be provided twice, that is at the top and bottom of the web paper **79**. As shown in FIG. **8**, a first printer **80** is provided together with a second printer **81**. These printers then apply the visual characters, bar code, and/or magnetic ink characters. These first and second printers **79** and **81** may be printing on opposite sides of the web paper. Thereafter, a paper buffer **82** is provided having a paper sensor **90**. Then the stand-alone test box **83** is provided having above the paper web the BSC **84**, VIS **85**, and MICR **86** units described with respect to FIG. **7**. Similar units **87**, **88** and **89** are provided below the paper web. A data bus **91** is provided connecting to the first and second printers and to the paper sensor, and to the aforementioned sensor/controllers **84**, **85**, **86**, **87**, **88**, and **89** so that data flow can be controlled by a control computer **92** connected to a data base **93**.

By providing the inspection equipment twice, that is at the top and bottom of the fanfold paper tray, duplex printer paper may be scanned in one pass.

To synchronize print stops of the printer, marks can be printed regularly (for instance every 10, 50, or 1000 pages) on the paper to signal a position. A respective entry to the control computer **92** is made. The marks may be used for precise positioning of the paper at the verification equipment within the stand-alone box **83**.

The mark together with the paper buffer is positioned before the stand-alone box as shown in FIG. **8**. This allows holding a position while the verifying equipment reads the document without slowing down the printer—that is it would be possible that the printer starts again, before the precise positioning and verification steps have been finished. According to FIG. **8**, the buffer and/or stand-alone box may contain paper transport elements (motor, rollers, sensors and control units for driving the positioning).

Other verification technology such as ultrasound verification, or IR light verification to detect mechanical paper damage, can be added to the stand-alone box.

There are many advantages to the stand-alone box system shown in FIGS. **7** and **8**. No synchronization problems occur between the first and second printers of the twin system because you are viewing both the top and bottom of the same page at the same time. The system can handle simplex or duplex prints with 100% assurance of accuracy. The system can handle one-wide or two-wide documents or both by adjusting a paper guide. The stand-alone box is more accurate, rigid and dependable than hanging the test equipment at the back end of the printer as in FIG. **1**. The stand-alone box can be attached to any continuous web printer. The stand-alone box can be attached to unwinders, rewinders, and sorting devices, and just about anything that has a paper web. Other attachments can be added to the stand-alone box such as an MICR verifier. The stand-alone boxes are an economical design for large customers with many printers. Finally, the stand-alone box would not have to be locked to a single printer. Since it does its own registration, it can be made portable and moveable to another printer for backup.

Although various minor modifications might be suggested by those skilled in the art, it should be understood that our wish to embody within the scope of the patent warranted hereon all such modifications as reasonably and properly come with the scope of our contribution to the art.

We claim as our invention:

1. A method for printing at least one of optical and magnetic information onto a continuous web-shaped recording carrier in a printing line, the carrier comprising at least one of an optical recording zone and a magnetic recording zone, comprising the steps of:

printing the optical information onto the recording carrier using optical readable toner or printing the magnetic information being printed onto the recording carrier using magnetic ink character recognition toner; and

testing by using at least one of a magnetic test equipment for inspection and an optical image test equipment for inspection and wherein both the magnetic test equipment and the optical image test equipment are located in the printing line and wherein at least one of the test equipments is used after a print stop has been initiated.

2. The method according to claim **1**, wherein at least one of the testings is performed during a print stop.

3. The method according to claim **1** wherein the testing step is controlled by a controller which initiates print stops.

4. The method according to claim **1** wherein bar codes printed on the recording carrier are read by bar code equipment.

5. The method according to claim **4** wherein signals generated by at least one of the magnetic test equipment, the bar code read equipment, and the optical image test equipment are used for document tracking.

6. The method according to claim 1 wherein the recording carrier is transported to a predetermined position with respect to at least one of the magnetic and optical image test equipments before the inspection step is initiated.

7. The method according to claim 6 wherein the predetermined position with respect to at least one of the magnetic and optical image test equipments is a top-of-page position.

8. The method according to claim 1 including the step of providing the magnetic test equipment and the optical image test equipment in a same box which houses a printing station for at least one of the magnetic information and the optical information.

9. The method according to claim 1 including the step of providing the magnetic test equipment and the optical image test equipment in a stand-alone box separate from a housing containing a printer for at least one of the magnetic information and the optical information.

10. A printing line, comprising

a printing device for printing at least one of optical and magnetic information onto a continuous web-shape recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

the test equipments are located at an output path of the printing device; and

the optical image test equipment and the magnetic test equipment being located in a box with the printing device.

11. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a continuous web-shape recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

the test equipments are located at an output path of the printing device; and

the optical image test equipment and the magnetic test equipment being located in a stand-alone box separate from the printing device.

12. A printing line, comprising

a printing device for printing at least one of optical and magnetic information onto a continuous web-shape recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

the test equipments are located at an output path of the printing device; and

first and second printing devices being provided and the optical image test equipment and the magnetic test equipment being located in a stand-alone box after the second printing device.

13. A method for printing at least one of optical and magnetic information onto a continuous web-shaped recording carrier in a printing line, the carrier comprising at least one of an optical recording zone and a magnetic recoding zone, comprising the steps of:

printing the optical information onto the recording carrier using optical readable toner or printing the magnetic information being printed onto the recording carrier using magnetic ink character recognition toner; and

testing by using at least one of magnetic test equipment for inspection and an optical image test equipment for inspection and wherein both the magnetic test equipment and the optical image test equipment are located in the printing line, and wherein the testing step is controlled by a controller which initiates print stops.

14. The method according to claim 13 wherein the magnetic test equipment and the optical image the equipment are located in a same box as a printing station for at least one of the optical information and the magnetic information.

15. The method according to claim 13 wherein the magnetic test equipment and the optical image test equipment are located in a stand-alone box separate from a printing station for at least one of the optical information and the magnetic information.

16. The method according to claim 13 wherein at least one of the testings is performed during a print stop.

17. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a continuous web-shape recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

a character recognition device connected to a document contents verification unit which is adapted to compare the information detected by the character recognition device with the information provided as a data stream from the electronic data source; and

the optical image test equipment and the magnetic test equipment being located in the stand-alone box separate from the printing device.

18. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a continuous web-shape recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

a controller which controls a carrier transport unit to transport the recording carrier upon receipt of a test signal to a predetermined position with respect to at least one of the test equipments before the testing step is initiated; and

the magnetic test equipment and the optical image test equipment being located in a same box as the printing device.

19. A printing line; comprising;

a printing device for printing at least one of optical and magnetic information onto a continuous web-shape recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

a controller which controls a carrier transport unit to transport the recording carrier upon receipt of a test signal to a predetermined position with respect to at least one of the test equipments before the testing step is initiated; and

the optical image test equipment and the magnetic test equipment being located in a stand-alone box separate from the printing device.

20. The printing line according to claim **19** wherein the magnetic test equipment and the optical image test equipment are provided at both sides of the web-shape recording carrier.

21. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a continuous web-shape recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

a controller which controls a carrier transport unit to transport the recording carrier upon receipt of a test signal to a predetermined position with respect to at least one of the test equipments before the testing step is initiated; and

the optical image test equipment comprises a bar code scanner and a CCD camera and the magnetic test equipment comprises a magnetic image character reader.

22. A method for printing at least an optical information onto a continuous web-shaped recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection and wherein the optical image test equipment is located in line in the printing line;

inspecting with the optical image test equipment a front and a backside of the recording carrier with respective optical sensors positioned at the front and the backside of the carrier; and

the optical image test equipment comprises a first video camera at a front side and a second video camera at a backside of the line recording carrier.

23. A testing device for use in a printing line, said printing line having a printing device for printing at least one of optical and magnetic information onto a web-shape recording carrier, the carrier having at least one of an optical recording zone and a magnetic recording zone, comprising:

a stand-alone box having contained inside thereof an optical image test equipment for inspecting the optical recording zone and a magnetic test equipment for inspecting the magnetic recording zone.

24. The testing device according to claim **23** wherein the stand-alone box is adapted for mounting at an output path of the printing device but separate from the printing device.

25. The testing device according to claim **23** wherein the stand-alone box is located in line with the printing line.

26. The testing device according to claim **23** wherein the optical image test equipment is located in line with the printing line and is adapted to inspect print quality or to recognize printed contents on the recording carrier, and the magnetic test equipment is located in line with the printing line and is adapted to detect magnetic information printed on the recording carrier.

27. The testing equipment according to claim **23** wherein the stand-alone box contains a bar code reading equipment which reads printed bar code information from the recording carrier.

28. The testing equipment according to claim **23** wherein the stand-alone box contains a CCD camera.

29. The testing equipment according to claim **23** wherein the stand-alone box contains a magnetic ink character recognition reader.

30. The testing equipment according to claim **23** wherein the stand-alone box contains a digital camera, a laser scanner, and a magnetic ink character recognition reader.

31. The testing device according to claim **23** wherein the optical image test equipment and the magnetic test equipment are provided at both opposite sides of the recording carrier in the stand-alone box.

32. A testing device for use in a printing line, said printing line having a printing device for printing at least one of optical and magnetic information onto a web-shape recording carrier, the carrier having at least one of an optical recording zone and a magnetic recording zone, comprising:

a stand-alone box having contained inside thereof an optical image test equipment for inspecting the optical recording zone and a magnetic test equipment for inspecting the magnetic recording zone; and

the stand-along box being mounted separate from the printing device but in-line in the printing line.

33. A method for testing in a printing line, comprising the steps of:

providing a printing device for printing at least one of optical and magnetic information onto a web-shape recording carrier, the carrier having at least one of an optical recording zone and a magnetic recording zone;

positioning a stand-alone box at a location after and separate from the printing device and having contained inside thereof an optical image test equipment for inspecting the optical recording zone and a magnetic test equipment for inspecting the magnetic recording zone; and

inspecting at least one of the optical recording zone and the magnetic recording zone with the optical and magnetic test equipment.

34. The method according to claim 33 including the step of inspecting the at least one of the optical recording zone and the magnetic recording zone in in-line fashion with the printing line.

35. A method for printing at least an optical information onto a continuous web-shaped recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection and wherein the optical image test equipment is located in line in the printing line; and

storing portions of the recording carrier after it has been printed by the printing station in a paper buffer.

36. The method of claim 35 wherein the paper buffer is separate from the printing station.

37. The method of claim 35 wherein the optical image test equipment is located in a stand-alone box in an output path of the printing station but separate from the printing device.

38. The method according to claim 35 including the step of using the test equipment after a print stop of the printing station has been initiated.

39. A system for printing at least an optical information onto a continuous web-shaped recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising:

a printing station for printing optical information onto the recording carrier using optical readable toner;

an optical image test equipment for inspection, the optical image test equipment being located in line in the printing line; and

a paper buffer separate from the printing station for storing portions of the recording carrier after it has been printed by the printing station.

40. The system according to claim 39 wherein the optical image test equipment is located in a stand-alone box in an output path of the printing device but separate from the printing station.

41. A method for printing at least an optical information onto a continuous web-shaped recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection and wherein the optical image test equipment is located in line in the printing line;

inspecting with the optical image test equipment a front and a backside of the recording carrier with respective optical sensors positioned at the front and the backside of the carrier; and

the test equipment is used after a print stop of the printing station has been initiated.

42. A method for printing optical information onto a continuous web-shape recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using an optical image test equipment for inspection, the optical image test equipment being located in line in the printing line; and

the testing with the optical image test equipment includes the step of sending data into at least one of a flat file and a data base to store and update the at least one of flat file and data base in a management computer, and to display at least one of status messages and document locations by the computer.

43. A method according to claim 42 including the step of locating the optical image test equipment in a stand-alone box in an output path of the printing station but separate from the printing device.

44. A method for printing an optical information onto a continuous web-shape recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection, the optical image test equipment being located in line in the printing line; and

providing said optical image test equipment with a data acquisition system for multi-threaded software capable of reading and passing data sent by a plurality of scanning systems and storing the data into at least one of a flat file and a data base in a form suitable for further processing.

45. The method according to claim 44 including the step of locating the optical image test equipment in a stand-alone box in an output path of the printing station but separate from the printing device.

46. A method for printing at least one of optical, bar code, and magnetic information onto a continuous web-shaped recording carrier in a printing line, the carrier comprising at least one of an optical, bar code, and magnetic ink recording zone, comprising the steps of:

printing at least one of the optical, bar code, and magnetic ink information by a printing station onto the recording carrier;

testing by using at least one of an optical image, bar code, and magnetic ink test equipment for inspection and wherein the at least one of the optical image, bar code, and magnetic ink test equipment is located in line in the printing line; and

storing portions of the recording carrier after it has been printed by the printing station in a paper buffer.

47. A method for printing at least one of optical, bar code, and magnetic ink information onto a continuous web-shape recording carrier in a printing line, the carrier comprising at least one of an optical, bar code, and magnetic ink recording zone, comprising the steps of:

printing at least one of the optical, bar code, and magnetic ink information by a printing station onto the recording carrier;

testing by using at least one of an optical image, bar code, and magnetic ink test equipment for inspection, at least one of the optical image, bar code, and magnetic ink test equipment being located in line in the printing line; and

the testing with the at least one of the optical image, bar code, and magnetic ink test equipment includes the step of sending data into at least one of a flat file and a data base to store and update the at least one of the flat file and data base in a management computer, and to display at least one of status messages and document locations by the computer.

48. A method for printing at least one of an optical, bar code, and magnetic ink information onto a continuous web-shape recording carrier in a printing line, the carrier comprising at least one of an optical, bar code, and magnetic ink recording zone, comprising the steps of:

printing the at least one of the optical, bar code, and magnetic ink information by a printing station onto the recording carrier;

testing by using at least one of an optical image, bar code, and magnetic ink test equipment for inspection, the at least one of the optical image, bar code, and magnetic ink test equipment being located in line in the printing line; and

providing the at least one of the optical image, bar code, and magnetic ink test equipment with a data acquisition system for multi-threaded software capable of reading and passing data sent by a plurality of scanning systems and storing the data into at least one of a flat file and a data base in a form suitable for further processing.

* * * * *

49. A method for printing at least one of optical and magnetic information onto a recording carrier in a printing line, the carrier comprising at least one of an optical recording zone and a magnetic recording zone, comprising the steps of:

printing the optical information onto the recording carrier using optical readable toner or printing the magnetic information being printed onto the recording carrier using magnetic ink character recognition toner; and

testing by using at least one of a magnetic test equipment for inspection and an optical image test equipment for inspection and wherein both the magnetic test equipment and the optical image test equipment are located in the printing line and wherein at least one of the test equipments is used after a print stop has been initiated.

50. The method according to claim 49, wherein at least one of the testings is performed during a print stop.

51. The method according to claim 49 wherein the testing step is controlled by a controller which initiates print stops.

52. The method according to claim 49 wherein bar codes printed on the recording carrier are read by bar code equipment.

53. The method according to claim 52 wherein signals generated by at least one of the magnetic test equipment, the bar code read equipment, and the optical image test equipment are used for document tracking.

54. The method according to claim 49 wherein the recording carrier is transported to a predetermined position with respect to at least one of the magnetic and optical image test equipments before the inspection step is initiated.

55. The method according to claim 54 wherein the predetermined position with respect to at least one of the magnetic and optical image test equipments is a top-of-page position.

56. The method according to claim 49 including the step of providing the magnetic test equipment and the optical image test equipment in a same box which houses a printing station for at least one of the magnetic information and the optical information.

57. The method according to claim 49 including the step of providing the magnetic test equipment and the optical image test equipment in a stand-alone box separate from a housing containing a printer for at least one of the magnetic information and the optical information.

58. A printing line, comprising

a printing device for printing at least one of optical and magnetic information onto a recording carrier, the information being provided as a data

stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

the test equipments are located at an output path of the printing device; and

the optical image test equipment and the magnetic test equipment being located in a box with the printing device.

59. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

the test equipments are located at an output path of the printing device; and

the optical image test equipment and the magnetic test equipment being located in a stand-along box separate from the printing device.

60. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

the test equipments are located at an output path of the printing device; and

first and second printing devices being provided and the optical image test equipment and the magnetic test equipment being located in a stand-alone box after the second printing device.

61. A method for printing at least one of optical and magnetic information onto a recording carrier in a printing line, the carrier comprising at least one of an optical recording zone and a magnetic recoding zone, comprising the steps of:

printing the optical information onto the recording carrier using optical readable toner or printing the magnetic information being printed onto the recording carrier using magnetic ink character recognition toner; and

testing by using at least one of magnetic test equipment for inspection and an optical image test equipment for inspection and wherein both the magnetic test equipment and the optical image test equipment are located in the printing line, and wherein the testing step is controlled by a controller which initiates print stops.

62. The method according to claim 61 wherein the magnetic test equipment and the optical image the equipment are located in a same box as a printing station for at least one of the optical information and the magnetic information.

63. The method according to claim 61 wherein the magnetic test equipment and the optical image test equipment are located in a stand-alone box separate from a printing station for at least one of the optical information and the magnetic information.

64. The method according to claim 61 wherein at least one of the testings is performed during a print stop.

65. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

a character recognition device connected to a document contents verification unit which is adapted to compare the information detected by the character recognition device with the information provided as a data stream from the electronic data source; and

the optical image test equipment and the magnetic test equipment being located in the stand-alone box separate from the printing device.

66. A printing line, comprising:

a printing device for printing at least one of optical and magnetic information onto a recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detect magnetic information printed on the recording carrier;

67. A printing line; comprising:

a printing device for printing at least one of optical and magnetic information onto a recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located inline with the printing line and adapted to detect magnetic information printed on the recording carrier;

a controller which controls a carrier transport unit to transport the recording carrier upon receipt of a test signal to a predetermined position with respect to at least one of the test equipments before a testing is initiated; and

the optical image test equipment and the magnetic test equipment being located in a stand-alone box separate from the printing device.

68. The printing line according to claim 67 wherein the magnetic test equipment and the optical image test equipment are provided at both sides of the web-shape recording carrier.

69. A printing line, comprising;

a printing device for printing at least one of optical and magnetic information onto a recording carrier, the information being provided as a data stream from an electronic data source, the carrier comprising at least one of an optical recording zone and a magnetic recording zone;

an optical image test equipment for inspection located in line with the printing line and adapted to inspect print quality or to recognize printed contents of a document;

a magnetic test equipment for inspection located in line with the printing line and adapted to detector magnetic information printed on the recording carrier;

a controller which controls a carrier transport unit to transport the recording carrier upon receipt of a test signal to a predetermined position with respect to at least one of the test equipments before a testing is initiated; and

the optical image test equipment comprises a bar code scanner and a CCD camera and the magnetic test equipment comprises a magnetic image character reader.

70. A method for printing at least an optical information onto a recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection and wherein the optical image test equipment is located in line in the printing line;

inspecting with the optical image test equipment a front and a backside of the recording carrier with respective optical sensors positioned at the front and the backside of the carrier; and

the optical image test equipment comprises a first video camera at a front side and a second video camera at a backside of the line recording carrier.

71. A testing device for use in a printing line, said printing line having a printing device for printing at least one of optical and magnetic information onto a recording carrier, the carrier having at least one of an optical recording zone and a magnetic recording zone, comprising:

a stand-alone box having contained inside thereof an optical image test equipment for inspecting the optical recording zone and a magnetic test equipment for inspecting the magnetic recording zone.

72. The testing device according to claim 71 wherein the stand-alone box is adapted for mounting at an output path of the printing device but separate from the printing device.

73. The testing device according to claim 71 wherein the stand-alone box is located in line with the printing line.

74. The testing device according to claim 71 wherein the optical image test equipment is located in line with the printing line and is adapted to inspect print quality or to recognize printed contents on the recording carrier, and the magnetic test equipment is located in line with the printing line and is adapted to detect magnetic information printed on the recording carrier.

75. The testing equipment according to claim 71 wherein the stand-alone box contains a bar code reading equipment which reads printed bar code information from the recording carrier.

76. The testing equipment according to claim 71 wherein the stand-alone box contains a CCD camera.

77. The testing equipment according to claim 71 wherein the stand-alone box contains a magnetic ink character recognition reader.

78. The testing equipment according to claim 71 wherein the stand-alone box contains a digital camera, a laser scanner, and a magnetic ink character recognition reader.

79. The testing device according to claim 71 wherein the optical image test equipment and the magnetic test equipment are provided at both opposite sides of the recording carrier in the stand-alone box.

80. A testing device for use in a printing line, said printing line having a printing devivce for printing at least one of optical and magnetic information onto a recording carrier, the carrier having at least one of an optical recording zone and a magnetic recording zone, comprising:

a stand-alone box having contained inside thereof an optical image test equipment for inspecting the optical recording zone and a magnetic test equipment for inspecting the magnetic recording zone; and

the stand-alone box being mounted separate from the printing device but in-line in the printing line.

81. A method for testing in a printing line, comprising the steps of:

providing a printing device for printing at least one of optical and magnetic information onto a recording carrier, the carrier having at least one of an optical recording zone and a magnetic recording zone;

positioning a stand-alone box at a location after and separate from the printing device and having contained inside thereof an optical image test equipment for inspecting the optical recording zone and a magnetic test equipment for inspecting the magnetic recording zone; and

inspecting at least one of the optical recording zone and the magnetic recording zone with the optical and magnetic test equipment.

82. The method according to claim 81 including the step of inspecting the at least one of the optical recording zone and the magnetic recording zone in in-line fashion with the printing line.

83. A method for printing at least an optical information onto a recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection and wherein the optical image test equipment is located in line in the printing line; and

storing portions of the recording carrier after it has been printed by the printing station in a paper buffer.

84. The method of claim 83 wherein the paper buffer is separate from the printing station.

85. The method of claim 83 wherein the optical image test equipment is located in a stand-alone box in an output path of the printing station but separate from the printing device.

86. The method according to claim 83 including the step of using the test equipment after a print stop of the printing station has been initiated.

87. A system for printing at least an optical information onto a recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising:

a printing station for printing optical information onto the recording carrier using optical readable toner;

an optical image test equipment for inspection, the optical image test equipment being located in line in the printing line; and

a paper buffer separate from the printing station for storing portions of the recording carrier after it has been printed by the printing station.

88. The system according to claim 87 wherein the optical image test equipment is located in a stand-alone box in an output path of the printing device but separate from the printing station.

89. A method for printing at least an optical information onto a recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection and wherein the optical image test equipment is located in line in the printing line;

inspecting with the optical image test equipment a front and a backside of the recording carrier with respective optical sensors positioned at the front and the backside of the carrier; and

the test equipment is used after a print stop of the printing station has been initiated.

90. A method for printing optical information onto a recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using an optical image test equipment for inspection, the optical image test equipment being located in line in the printing line; and

the testing with the optical image test equipment includes the step of sending data into at least one of a flat file and a data base to store and update the at least one of flat file and data base in a management computer, and to display at least one of status messages and document location by the computer.

91. A method according to claim 90 including the step of locating the optical image test equipment in a stand-alone box in an output path of the printing station but separate from the printing device.

92. A method for printing an optical information onto a recording carrier in a printing line, the carrier comprising at least an optical recording zone, comprising the steps of:

printing the optical information by a printing station onto the recording carrier using optical readable toner;

testing by using at least an optical image test equipment for inspection, the optical image test equipment being located in line in the printing line; and

providing said optical image test equipment with a data acquisition system for multi-threaded software capable of reading and passing data sent by a plurality of scanning systems and storing the data into at least one of a flat file and a data base in a form suitable for further processing.

93. The method according to claim 92 including the step of locating the optical image test equipment in a stand-alone box in an output path of the printing station but separate from the printing device.

94. A method for printing at least one of optical, bar code, and magnetic information onto a recording carrier in a printing line, the carrier comprising at least one of an optical, bar code, and magnetic ink recording zone, comprising the steps of:

printing at least one of the optical, bar code, and magnetic ink information by a printing station onto the recording carrier;

testing by using at least one of an optical image, bar code, and magnetic ink test equipment for inspection and wherein the at least one of the optical image, bar code, and magnetic ink test equipment is located in line in the printing line; and

storing portions of the recording carrier after it has been printed by the printing station in a paper buffer.

95. A method for printing at least one of optical, bar code, and magnetic ink information onto a recording carrier in a printing line, the carrier comprising at least one of an optical, bar code, and magnetic ink recording zone, comprising the steps of:

printing at least one of the optical, bar code, and magnetic ink information by a printing station onto the recording carrier;

testing by using at least one of an optical image, bar code, and magnetic ink test equipment for inspection, at least one of the optical image, bar code, and magnetic ink test equipment being located in line in the printing line; and

the testing with the at least one of the optical image, bar code, and magnetic ink test equipment includes the step of sending data into at least one of

a flat file and a data base to store and update the at least one of the flat file and data base in a management computer, and to display at least one of status messages and document locations by the computer.

96. A method for printing at least one of an optical, bar code, and magnetic ink information onto a recording carrier in a printing line, the carrier comprising at least one of an optical, bar code, and magnetic ink recording zone, comprising the steps of:

printing the at least one of the optical, bar code, and magnetic ink information by a printing station onto the recording carrier;

testing by using at least one of an optical image, bar code, and magnetic ink test equipment for inspection, the at least one of the optical image, bar code, and magnetic ink test equipment being located in line in the printing line; and

providing the at least one of the optical image, bar code, and magnetic ink test equipment with a data acquisition system for multi-threaded software capable of reading and passing data sent by a plurality of scanning systems and storing the data into at least one of a flat file and a data base in a form suitable for further processing.